

SIDAC

Supportability Investment Decision Analysis Center

Contract No. F33657-92-D-2055/0087
CDRL A006, Data Item DI-MCCR-8033
Report No. SID/TR-96/0096

(Unclassified)

SOFTWARE USERS MANUAL

for

Army Logistics Assessment Program

Prepared for

HQ USA/DALO-RMI
500 Army Pentagon
Washington, DC 20310-0500

21 June 1996

Prepared by

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19970127 012

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FOR THE COMMANDER

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REPORT DOCUMENTATION PAGEForm Approved
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1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 21 June 1996	3. REPORT TYPE AND DATES COVERED Software Users Manual	
4. TITLE AND SUBTITLE Software Users Manual for Army Logistics Assessment Program (ALAP)			5. FUNDING NUMBERS Contract No. F33657-92-D-2055 Delivery Order No.0087	
6. AUTHOR(S) Mike Austin; Harry Krimkowitz				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(S) Synergy, Inc. 1763 Columbia Rd, NW Washington, DC 20009			8. PERFORMING ORGANIZATION REPORT NUMBER SID 12597	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) HQ USA/DALO-RMI 500 Army Pentagon Washington, DC 20310-0500			10. SPONSORING/MONITORING AGENCY REPORT NUMBER SID/TR-96/0096	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for Public Release; Distribution is Unlimited			12b. DISTRIBUTION CODE D	
13. ABSTRACT (Maximum 200 words) The proof-of-concept model for ALAP demonstrates the feasibility of equating Army measures of OPTEMPO, maintenance rates, and funding levels to sustainment capability. Synergy's ALAP shows that we can link weapon system readiness to sustainability given current and future programmed budget positions to create a viable POM and PPBES decision-support tool. This model also supports the hypothesized outcome of current funding levels affecting future capabilities to successfully prosecute combat missions and contingency operations.				
14. SUBJECT TERMS Logistics, FAMMAS, Sustainment Assessment, OPTEMPO, Funding, Budget			15. NUMBER OF PAGES 38	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	

Contract No. F33657-92-D-2055
SIDAC Task Number 101, Delivery Order No. 0087
CDRL A006, Data Item No. DI-MCCR-8033

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Introduction

The Army Funding/Availability Multi-Method Allocator for Spares (Army FAMMAS) model was developed by Synergy, Inc., for the Secondary Items Division, Directorate of Resource Management, Deputy Chief of Staff Logistics, Headquarters, United States Army (DALO-RMI) and Requirements Division, Directorate of Materiel Management, Deputy Chief of Staff Logistics, Headquarters, Army Materiel Command (AMCLG-SR). The model develops estimates of weapons system availability, measured in terms of the not mission capable, supply (NMCS) and not mission capable, maintenance (NMCM) rates. Not mission capable, supply rates are based upon funding and requirements for procurement and repair of depot-level reparable. Not mission capable, maintenance rates are based upon maintenance manpower fill rates, maintenance manpower utilization rates, and weapons system operating tempo (OPTEMPO).

The Army Logistic Assessment Program (ALAP) Proof of Concept Model (POCM) was also developed by Synergy for DALO-RMI and HQ AMC. The original program was designed as a series of enhancements for the Army FAMMAS model, but through the course of the contract, decisions were made that altered the nature of work to be performed under this program. The final agreement for any development under this program was for a Proof of Concept Model. This model would support sustainment assessment based on current budget constraints and funding levels with respect to linking wartime OPTEMPO, NMCM, NMCS, and spares break/failure rates.

A complete picture of capability has traditionally called for not only a profile of sustainability (effectiveness of the force in prosecuting a war), but also readiness (fitness of the force at the outset of war). Each of these complementary aspects of capability contribute to an understanding of the overall impact of resource allocation decisions. During the early stages of sustainability modeling, it became apparent that the resource sets supporting sustainability-oriented models did not offer sufficiently broad program coverage to fully assess resource funding profiles such as program elements. The resource sets also needed to be broadened if they were to play a significant role in weapons system master planning. It became clear that effective logistics modeling would have to incorporate the fact that the bulk of weapons system funding requirements supports peacetime operating resources that are needed to maintain force readiness.

Army FAMMAS was developed to broaden the base of resource assessment throughout the programming and budgeting process by measuring and predicting weapons system readiness. The ALAP POCM was added to FAMMAS to carry the resource assessment process out to its logical end, weapon system sustainment. Army FAMMAS generates a peacetime system availability rate to provide the Army with an analytical tool to perform rapid trade-offs between Defense Business Operations Fund (DBOF) Supply Business Management Area (SMBA) funding streams that affect the readiness/capability of the major weapons system within the Army.

This manual, the Functional Description, and the on-line instructions will guide the user through a complete understanding of the model's user interface, variables, data sources, functions, and algorithms.

REQUIRED EQUIPMENT

The following equipment is required to install and use the Army FAMMAS/ALAP software:

- An IBM-compatible PC (386 or higher) that is compatible with Microsoft Windows
- At least 15 MB of hard disk space
- 4 MB or more of RAM
- VGA or SVGA monitor that is supported by Windows
- A 1.44 MB, 3.5 in disk drive
- A properly installed mouse
- WINDOWS 3.1 or higher and MS DOS 5.0 or higher

Any system with better components will increase the performance of Army FAMMAS/ALAP.

INSTALL PROCEDURES

The following procedures assume that Microsoft Windows has been installed and you are familiar with Windows terminology. For more information about Windows, please refer to your Windows manual.

Army FAMMAS was developed for the United States Army using Delphi from Borland International, Inc. Army FAMMAS/ALAP makes use of the Borland Database Engine (BDE) to read its data files.

Installation of Army FAMMAS/ALAP is a two part process:

- 1) Install the BDE (2 disks)
- 2) Install Army FAMMAS/ALAP (5 disks)

To install the BDE: start windows, insert BDE disk #1 into the floppy disk drive, and run setup.exe from Program Manager File Manager. Follow all instructions and insert disk #2 when prompted.

To install Army FAMMAS/ALAP from windows, insert Army FAMMAS/ALAP disk #1 into the floppy disk drive, and run setup.exe from Program Manager or File Manager. Follow all instructions and insert disks 2-5 when prompted.

Reboot the system when the installation of BDE and Army FAMMAS/ALAP is complete.

TECHNICAL SUPPORT

For technical support call (0900 — 1700 EST):

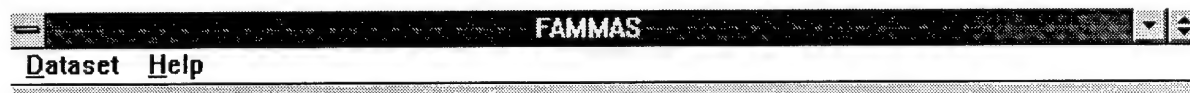
Synergy, Inc., (202) 232-6261

and ask to speak with a technical representative for the Army FAMMAS or the ALAP Proof of Concept Model.

Army FAMMAS Menu Functions

Initial Menu

When Army FAMMAS/ALAP is first opened, only a limited menu is available. The user can choose from Data Set and Help.

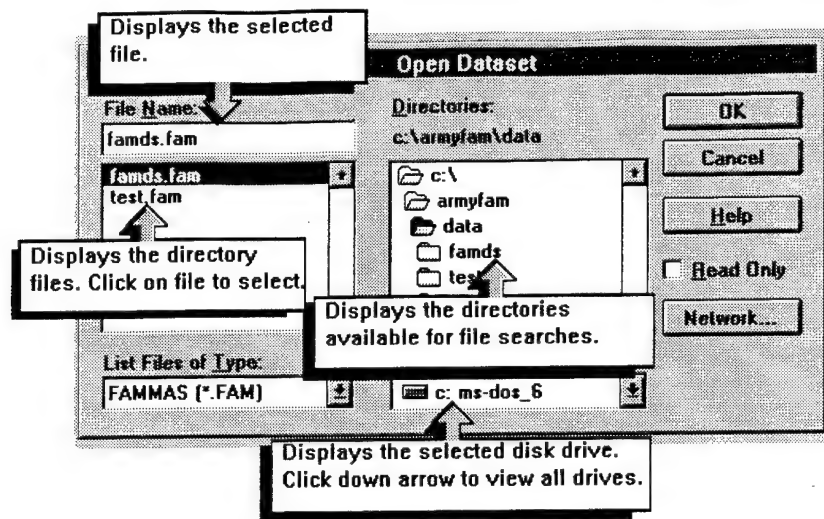


Data Set

Under this menu option, the user can access the functions needed to manage Army FAMMAS data sets. In the initial menu, these functions are limited to Open, Delete, and Exit. The ALAP POCM shares the same data set that resides within FAMMAS. By opening the FAMMAS data set, the user also gains access to ALAP's data.

Open

This selection provides the user with the option of opening a default database or a database created by a user. When this item is selected, a dialog box will appear listing all types of databases. Highlighting the desired database and clicking OK will access that database for editing. The database name will then be displayed on the status bar. Any database that starts with FAMDS is considered a historical database.



Delete

This option will delete an existing data set from memory. When this item is selected, a dialog box will appear listing all databases. Highlighting the desired database and clicking OK will delete that data set from memory. (See the diagram under Open for a description of the dialog box.) Any data set beginning with FAMDS is protected from unauthorized or inadvertent deletion. Only advanced users may delete such a data set after extra dialog responses. This protects the historical data set FAMDS. FAM from inadvertent deletion.

Exit

Exits the user from the Army FAMMAS/ALAP model.

Help

Under Help, the user will find important definitions, instructions on how to use Army FAMMAS (a help system for the ALAP POCM is not available), and diagrams to facilitate assessments. The options under Help are Contents, Using Help, Glossary, and About.

Contents

Displays the contents of the Help System.

Using Help

Contains the standard Windows information on using help systems.

Glossary

Displays the contents of the Glossary.

About

Contains set-up information for the Army FAMMAS model.

Standard Menu

Once the database set is selected and opened, the menu bar changes into the standard menu. The standard menu adds an Analysis and Tools option to the menu.



Data Set

Under this menu option, the user can access the functions needed to manage Army FAMMAS and ALAP POCM data sets. In the initial menu, these functions are limited to Open, Delete, and Exit. In the standard menu, Save, Save As, Delete, Select Base Year, and Import are also included.

Save

Allows the user to save a database providing it has been renamed. If a data set that starts with FAMDS has been modified, a Save As dialog box will appear to prevent the default/historical data set from inadvertent overwrite.

Save As

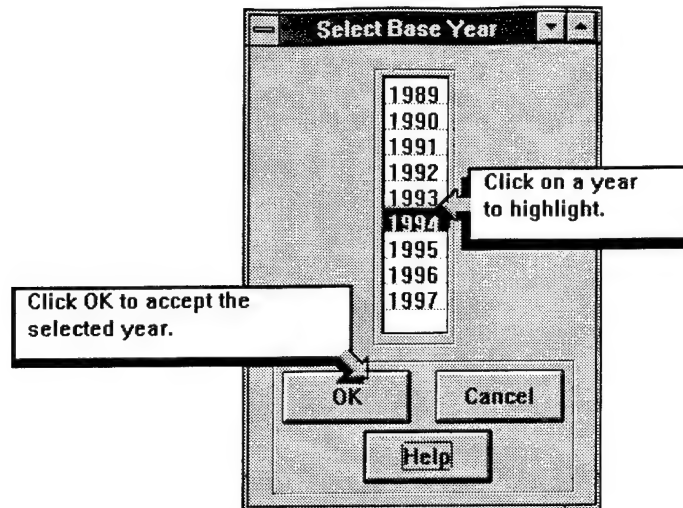
Allows the user to save the current data set under a new name to prevent overwriting previous data. This effectively creates a new data set with the modified data and the new name. Only advanced users may overwrite a FAMDS.FAM data set, and only after extra dialog responses. This protects the historical data set FAMDS.FAM from inadvertent overwrite. **Warning: If the data set is overwritten, historical data may be lost.** Always rename the **data set** to which you make changes. Do not use FAMDS in the name of the data set.

Delete

This option will delete an existing data set from memory. When this item is selected, a dialog box will appear listing all databases. Highlighting the desired database and clicking OK will delete that data set from memory forever. Any data set beginning with FAMDS is protected from unauthorized or inadvertent deletion. Only advanced users may delete such a data set, and only after extra dialog responses. This protects the historical data set FAMDS.FAM from inadvertent deletion.

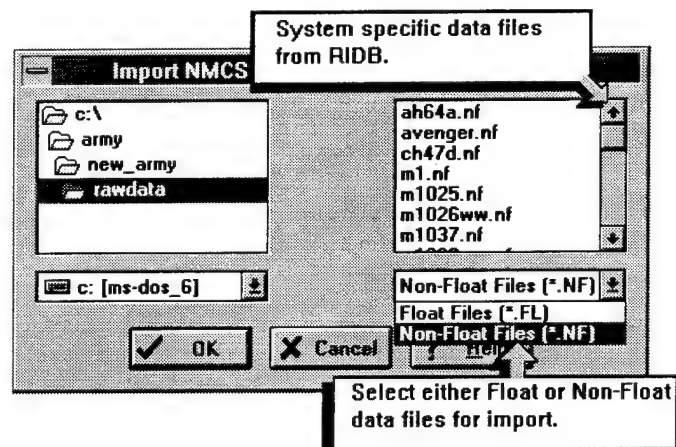
Select Base Year

Allows the user to change the year being assessed. The base year usually is the most recent fiscal year for which there is a full year of financial data. The base year is used for calibrating the weapon systems availability curve for the model's predictions of future NMCS. Army FAMMAS automatically defaults to the base year that was selected the last time the data set was saved. When this option is selected, a dialog box will appear listing all possible base years. Highlighting the desired year and clicking OK will change the base year. The year selected will be displayed on the status bar. **Note:** if the user wants to change the base year forward from the current base year of 1995, data must be available for the year 2000 for the weapons systems that are to be assessed so that the model will make proper predictions for that year. Data required at a minimum are funding data for the year 2000, and historical NMCS and NMCM for year 1995. Also, lead time factors and readiness targets for the year 2000 must be checked to ensure that they are correct as default data settings are global factors rather than weapons specific factors.

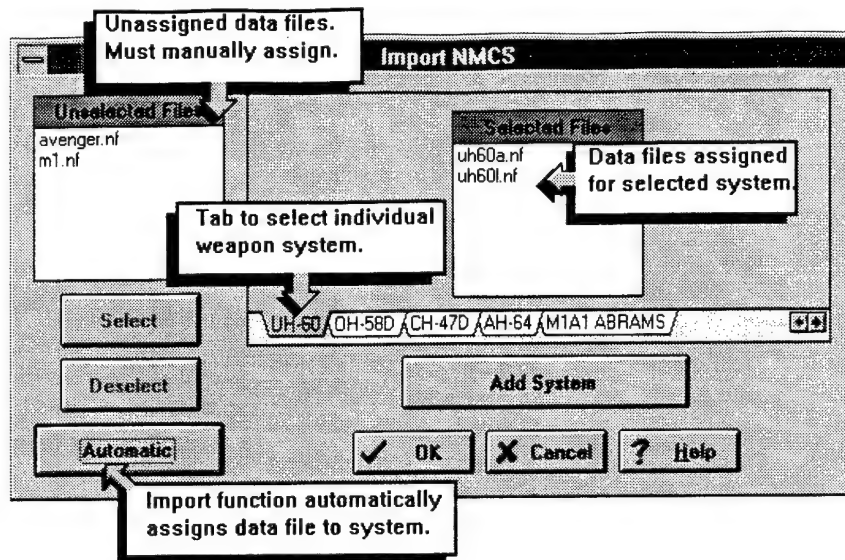


Import —NMCS

The NMCS import function allows the user to automatically import data from the Readiness Integrated Data Base (RIDB) in the format established between LOGSA and Synergy. The user first selects the directory where the files are stored.

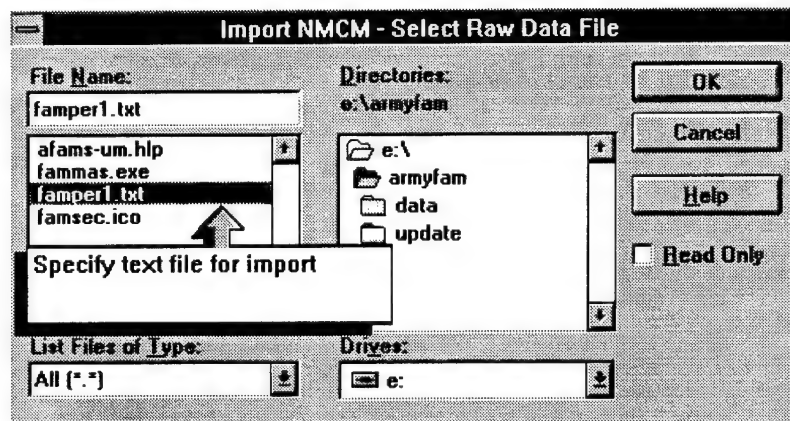


Then the user can either manually or have Army FAMMAS automatically assign the files to the established weapons system. If the model does not associate a file with a weapons system, the user must manually assign the file to a weapons system.



Import —NMCM

The NMCM import function allows the user to import Military Occupational Specialty (MOS) data into the model. The file must be in text format. The data are obtained from the U.S. Total Army Personnel Command.

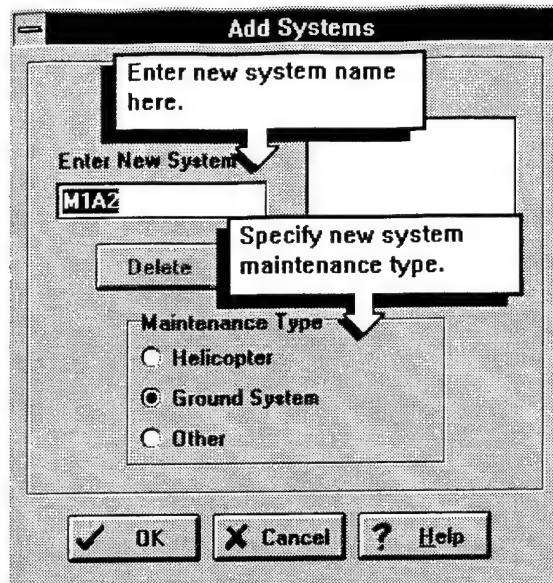


Systems Maintenance

In the advanced user level of Army FAMMAS the user has the ability to Add Systems, Rename Systems, Remove Systems, or add additional Maintenance MOSs to the model.

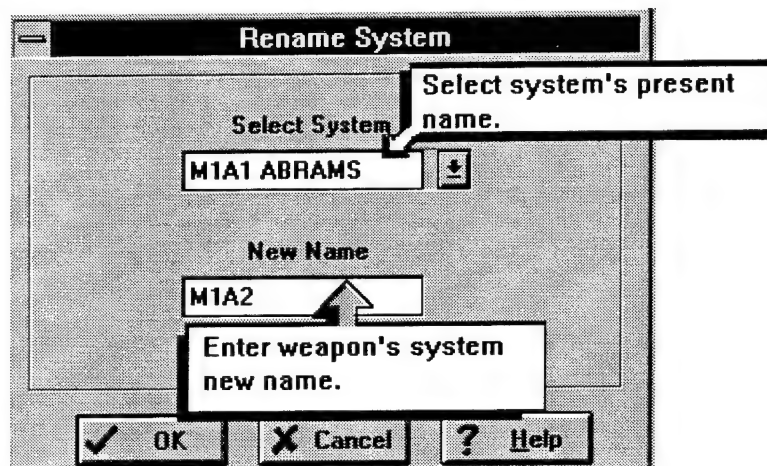
Add System

To add a new weapons system to the model, enter the new weapons system name. For proper maintenance computations, the user must specify whether the new weapons system is a helicopter, ground system, or other. In other words, if system OPTEMPO is measured in hours, then click on Helicopter; if the OPTEMPO is measured in miles, then click on Ground System; if the OPTEMPO is not measured by hours or miles, then click on Other.



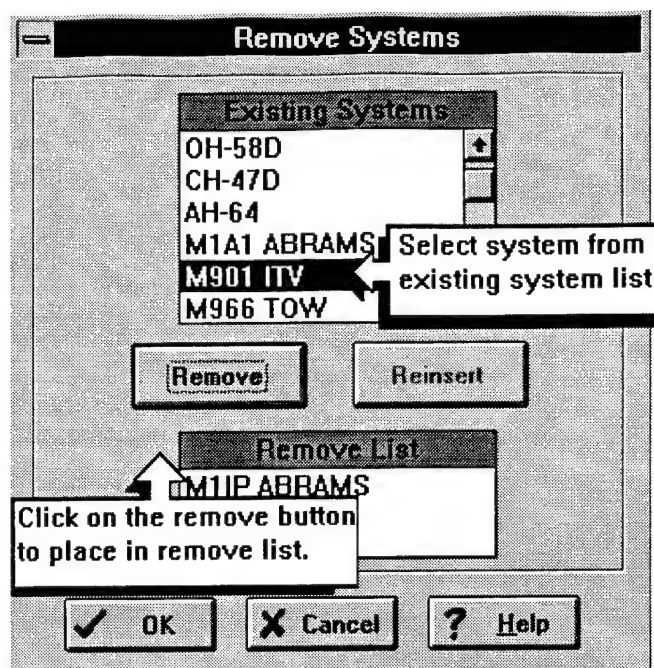
Rename System

The model allows the user to rename a weapons system as necessary.



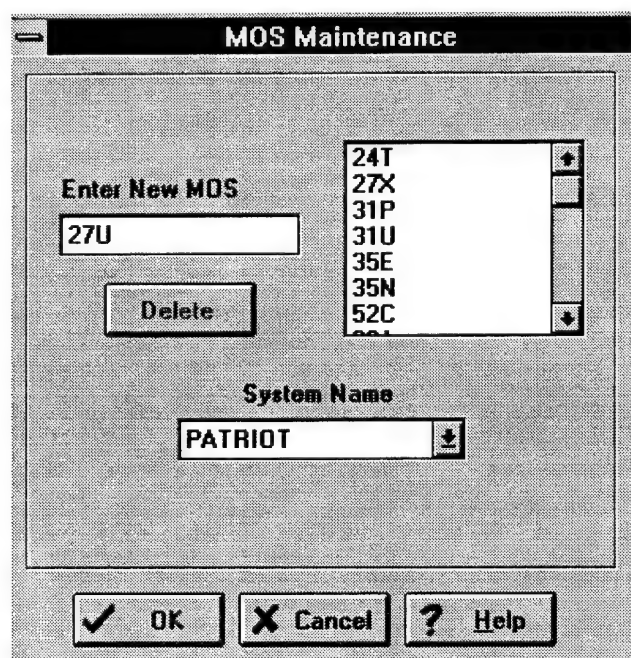
Remove System

The model allows the user to remove any weapons system. The user must be in the advanced user level in order to perform system maintenance. If the weapons system will no longer be tracked, simply click on the remove system in the systems maintenance heading under data set. **Note:** if you remove a weapons system, the user must save the new data set and exit from the Army FAMMAS program prior to attempting to run another weapons system assessment. This procedure allows for proper indexing of all data files.



ADD Military Occupational Specialty (MOS)

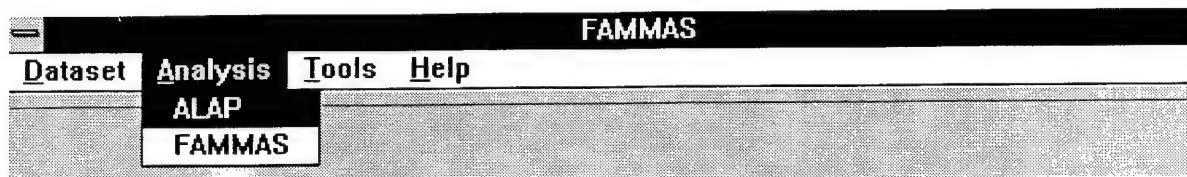
If the MOSs change for a particular weapons system, the model allows for the addition of a new MOS and removal of an obsolete MOS. The addition or deletion of an MOS must be done prior to any attempt to import a new text file MOS listing from the U.S. Total Army Personnel Command.



Analysis

When first accessing the Analysis menu, the user is given the choice of accessing the Army FAMMAS model or the ALAP POCM. Once the user chooses to open the FAMMAS model, the option is given to

start either a single system or multiple system assessment. However, when a data set is initially opened, no system(s) is selected, so the user must first select a system or group of systems before running an assessment. The steps to select a system or group of systems is discussed in the Single System and Multiple System sections.



Tools

User Level

Selection of this menu option will activate a submenu with the two user level options, Standard and Advanced, that influence access to certain areas of the model. The advanced user level requires a password for access.

Standard User Level

This is the default Army FAMMAS user level that allows access to basic funding and availability inputs.

Advanced User Level

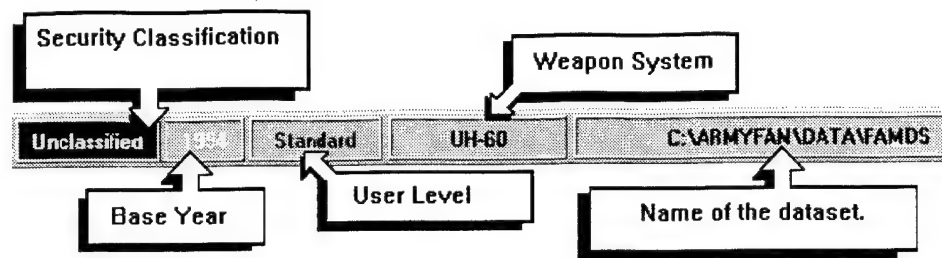
This level allows the user access to the standard menu options plus some additional policy variables. When this level is selected, the edit option will appear on both the main Army FAMMAS menu and the Assessment Mode menu. Access to the advanced user level is password protected. Although both the standard and Advanced User Level options are accessible while in the ALAP POCM, operating in the Advanced User mode offers no additional ALAP options.

Comments

Allows the user to insert comments in text format to be saved with the data set. This feature uses the notepad program in Microsoft Windows.

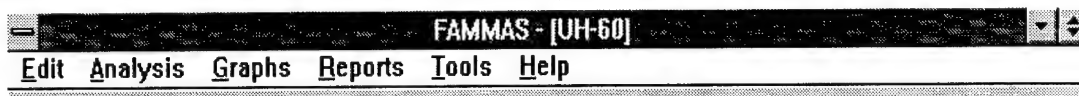
Status Bar

The Army FAMMAS status bar displays the attributes of the data set being assessed. It shows the user the name of the data set, the classification, the base year, user level, and weapons system being assessed. When Army FAMMAS is first opened and no data set has been selected, the status bar will be partially blank.



Standard Assessment Menu

This menu governs the standard assessment mode of Army FAMMAS and will appear along with the funding and MC Rate windows when Perform Single System Analysis is selected. In the assessment mode, the user no longer has the ability to manage data sets through the Data Set menu. The standard assessment menu includes Edit, Analysis, Graphs, Reports, Tools, and Help.



Edit

Edit function allows the user to set the system-specific Funding Limits, Readiness Rates, and Maintenance Operating Factors. These system inputs are necessary for the correct calibration of the model.

Funding Limits

The Funding Limits function allows the user to preset limits on the amount of Operating Cost Authority (OCA) Buy funding an individual system can receive in a specific fiscal year. This function is an integral part for running the Multiple System Analysis function — Spread Amount above Minimum. The current default settings are Maximum % of 105 and a Minimum % of zero.

Enter minimum and maximum funding limits by fiscal year.

	1995	1996	1997	1998	1999
Minimum in \$	0.0	0.0	0.0	0.0	0.0
Minimum as %	0%	0%	0%	0%	0%
Maximum in \$	33.7	33.7	33.7	33.7	33.7
Maximum as %	105%	105%	105%	105%	105%
Current in \$	32.1	32.1	32.1	32.1	23.3
Current as %	100%	100%	100%	100%	73%

Displays current Buy funding posture of selected system.

☒ OK

Readiness Rates

The user inputs two sets of readiness numbers in this box. The first set of readiness numbers is historical NMCS and NMCM rates achieved by the selected system. These historical rates are used

by ARMY FAMMAS to calibrate against history. The second set of readiness numbers are the NMCS and NMCM targets set for that system by HQDA in AR 700-138. ARMY FAMMAS uses these targets to assess where the system should be when it has 100% delivered funding.

The screenshot shows a dialog box titled "Readiness Rates". It contains two tables: "Historical Readiness" and "Readiness Targets".

Historical Readiness

	NMCS	NMCM
1991	12.91%	21.90%
1992	8.04%	25.81%
1993	7.58%	28.6%
1994	8.03%	23.32%

Readiness Targets

	NMCS	NMCM
1995	10.00%	23.32%
1996	10.00%	23.32%
1997	10.00%	23.32%
1998	10.00%	23.32%

At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

Two callout boxes provide instructions:

- "Enter the historical NMCS and NMCM readiness rates." points to the "Historical Readiness" table.
- "Enter future year NMCS and NMCM readiness targets." points to the "Readiness Targets" table.

Analysis

This menu selection allows the user to terminate the current assessment or save the assessment in memory for future use. The functions available in this menu are Save Assessment and Cancel Assessment.

Save Changes

Allows the user to save the current funding profile and MC Rate output. This enables the user to leave assessment mode and still retrieve the same assessment. If you wish to exit Army FAMMAS and still have the ability to retrieve the assessment, you need to select Save from the data set menu.

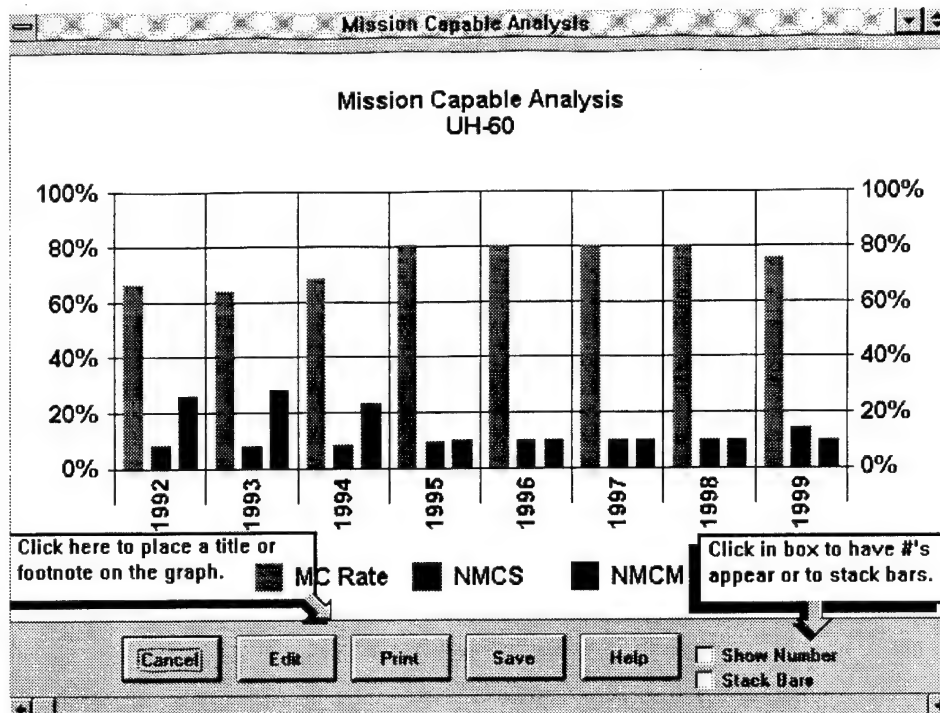
Cancel

Returns the user to the main Army FAMMAS menu without saving the assessment.

Graphs

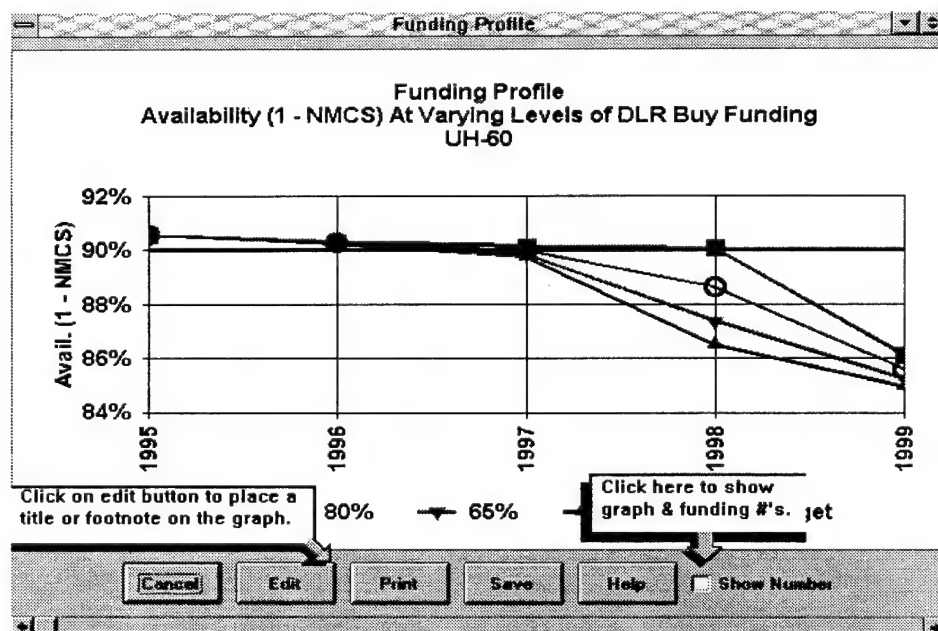
Mission Capable Analysis —Single System

Selection of this menu option will activate a graphical representation of the yearly mission capability by category (MC, NMCS, and NMCM). The user has the option of displaying parallel or stacked bar charts. All charts are capable of being saved as bitmap files or Windows metafiles. This allows the graphs to be imported into any Windows graphic package such as PowerPoint, Harvard Graphics, or Freelance. When the graph is in the full screen mode, a show number box appears at the bottom of the screen. When the button is clicked, the actual percentage numbers on the graph are displayed and the funding numbers that produced the graphical results are also displayed.



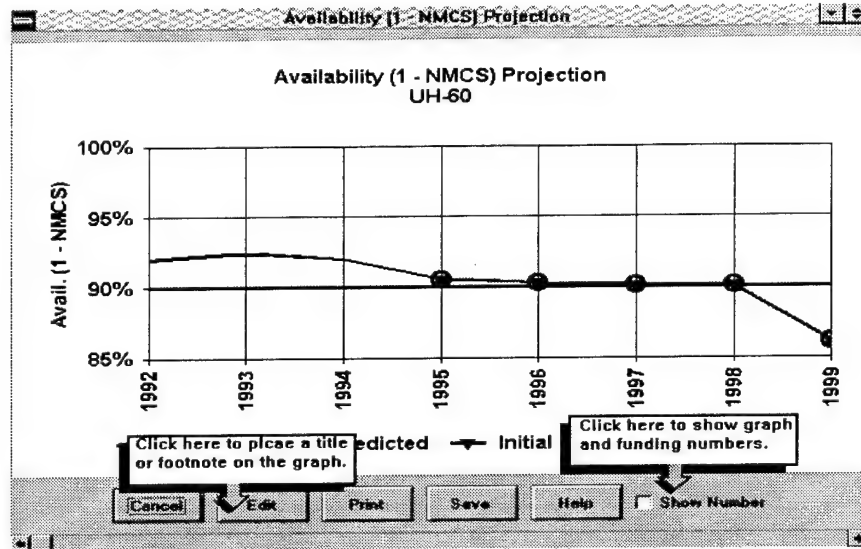
Funding Profile

Selection of this menu option will activate a graphical representation of the yearly Depot Level Repairable (DLR) Buy funding profile. When the graph is in the full screen mode, a show number box appears at the bottom of the screen. When the button is clicked, the actual percentage numbers on the graph are displayed and the funding numbers that produced the graphical results are also displayed.



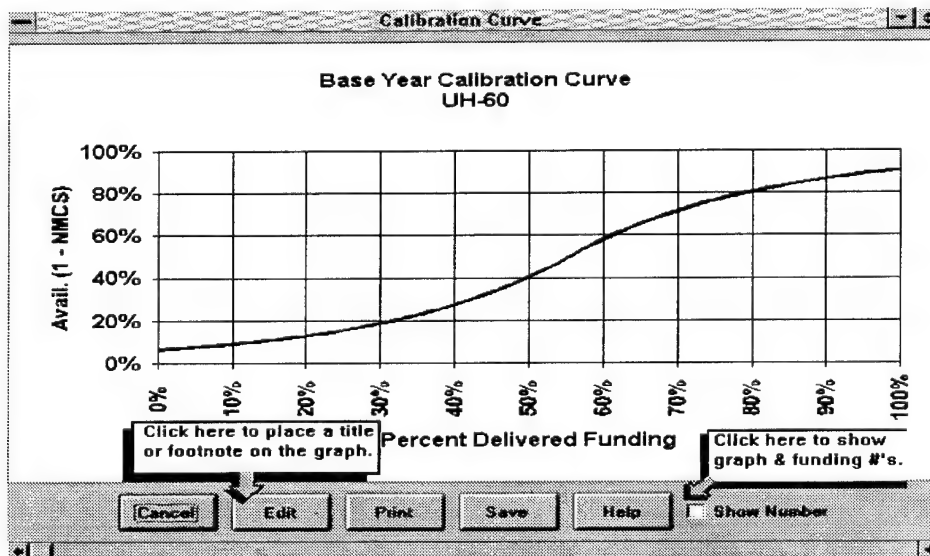
Availability (1-NMCS) Projection

Selection of this menu option will activate a graphical representation of the historical and projected availability (1-NMCS) rates. The graph also displays any change in the original analysis or baseline analysis. When the graph is in the full screen mode, a show number box appears at the bottom of the screen. When the button is clicked, the actual percentage numbers on the graph are displayed and the funding numbers that produced the graphical results are also displayed.



Calibration Curve

Selection of this menu option will activate a graphical representation of the base year calibration curve on which the model results are based. When the graph is in the full screen mode, a show number box appears at the bottom of the screen. When the button is clicked, the actual percentage numbers on the graph are displayed and the funding numbers that produced the graphical results are also displayed.



Standard Reports

At the standard user level the user can see the Operating Cost Authority and MC Rate report and a similar report with Delivered Funding and MC Rates. The advanced user can see these reports plus three reports that display the spread of each type of funding in accordance with the lead time factors, the calibrated availability curve, and the system administrator's report. All reports can be printed and exported to a spreadsheet. In addition, the reports can be attached to and exported from an e-mail file.

OCA Funding and MC Rates

This report displays the Operating Cost Authority Funding Scenario for all funding categories and years as well as the NMCS, NMCM, and MC Rate for the specified weapons system for all years.

2/8/96 2:44:44 PM

OCA Funding & MC Rates

Weapon System: **UH-60** DataSet: **C:\ARMYFAM\DATA\FAMDS**

Dollars in Millions

	1992	1993	1994	1995	1996	1997	1998	1999
UH-60								
Consumables Rqmt	92.0	116.8	34.8	24.0	24.0	24.0	24.0	67.9
Consumables Funded	92.0	116.8	34.8	24.0	24.0	24.0	24.0	60.0
Consumables Percent	100%	100%	100%	100%	100%	100%	100%	88%
DLR Buy Rqmt	88.4	55.4	40.6	32.1	32.1	32.1	32.1	32.1
DLR Buy Funded	88.4	55.4	40.6	32.1	32.1	32.1	32.1	23.3
DLR Buy Percent	100%	100%	100%	100%	100%	100%	100%	73%
Init. Spares Rqmt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Init. Spares Funded	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Init. Spares Percent	0%	0%	0%	0%	0%	0%	0%	0%
DLR Repair Rqmt	23.2	14.2	106.6	136.7	136.7	136.7	136.7	132.6
DLR Repair Funded	23.2	14.2	106.6	136.7	136.7	136.7	136.7	120.4
DLR Repair Percent	100%	100%	100%	100%	100%	100%	100%	91%
Total Rqmt	203.6	186.4	182.0	192.8	192.8	192.8	192.8	232.6
Total Funded	203.6	186.4	182.0	192.8	192.8	192.8	192.8	203.7
Total Percent	100%	100%	100%	100%	100%	100%	100%	88%
MC Rate	66.15%	64.42%	68.65%	80.54%	80.27%	80.14%	80.07%	76.12%
NMCS	8.04%	7.58%	8.03%	9.46%	9.73%	9.86%	9.93%	13.88%
NMCM	25.9%	28.00%	23.32%	10.00%	10.00%	10.00%	10.00%	10.00%

1 of 1 44 of 44 Total: 44 100%

Delivered Funding and MC Rates

This report is similar to the OCA Funding and MC Rates report. It displays the Delivered Funding Scenario for all funding categories based on the Lead Time Factors as well as the NMCS, NMCM, and MC Rate for the specified weapons system for all years.

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2/3/96 8:18:18 PM

DLR Delivered Inventory (Funded) & MC Rates (without Carryover)

Weapon System: **UH-60** DataSet: **C:\ARMYFAM\DATA\FAMDS**

Dollars in Millions

	1992	1993	1994	1995	1996	1997	1998	1999
UH-60								
DLR Buy Rqmt	0.0	0.0	0.0	59.4	42.2	33.6	32.1	32.1
DLR Buy Funded	0.0	0.0	0.0	59.4	42.2	33.6	31.8	33.3
DLR Buy Percent	0%	0%	0%	100%	100%	100%	99%	104%
DLR Repair Rqmt	0.0	0.0	0.0	124.6	136.7	136.7	136.7	134.3
DLR Repair Funded	0.0	0.0	0.0	124.6	136.7	136.7	136.7	126.9
DLR Repair Percent	0%	0%	0%	100%	100%	100%	100%	94%
Total Repairable Rqmt	0.0	0.0	0.0	184.0	178.9	170.3	168.8	166.4
Total Repairable Fund	0.0	0.0	0.0	184.0	178.9	170.3	168.5	160.2
Total Percent	0%	0%	0%	100%	100%	100%	100%	96%
MC Rate	37.99%	64.61%	63.22%	67.31%	63.42%	63.26%	63.09%	61.07%
NMCS	40.11%	9.58%	9.78%	9.37%	9.68%	9.84%	10.01%	12.03%
NMCM	21.90%	25.81%	28.00%	23.32%	26.90%	26.90%	26.90%	26.90%

1 of 1 44 of 44 Total: 44 100%

Maintenance Profile

The maintenance profile report displays the maintenance information, both historical and projected, for the weapons system selected.

12/27/95 5:02:35 PM									
Maintenance Profile									
Weapon System: OH-60		DataSet: C:\ARMYFAM\DATA\FAMDS2							
Dollars in Millions									
OH-60	1991	1992	1993	1994	1995	1996	1997	1998	
OPTEMPO	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	
Direct Fill %	90.00%	90.00%	90.00%	90.00%	94.64%	94.23%	94.97%	94.95%	
Indirect Fill %	90.00%	90.00%	90.00%	90.00%	93.54%	96.73%	96.90%	96.53%	
Use Rate	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	
NMCM	21.90%	25.81%	28.00%	23.32%	17.17%	14.64%	13.89%	14.27%	

Advanced Assessment Menu

When selecting the Advanced User Level in the Tools menu, the user will be required to enter a password to gain access to this level. Once the proper password is entered, the Edit menu option will appear with the Standard Menu. In addition, the advanced user will also have access to more reports.

Edit

The Edit menu allows the advanced user to manipulate additional policy variables in Army FAMMAS. Under this option the advanced user has access to Lead Time Factors, Carry Over Factors, Current Year Adjustment, Funding Limits, and Readiness Rates. If the user is accessing the Edit menu from the assessment mode, he or she can make the desired edits, click OK, and watch the funding and availability change accordingly.

Lead Time Factors

This screen contains the funding distribution percentages for all types of funding. These inputs allow the user to define, for each funding year, the schedule of parts arriving in inventory. For example, if \$100 is obligated in 1993 with a spread of 10% (Fund Yr), 30% (Fund Yr+1), and 60% (Fund Yr+2), then \$10 worth of parts would arrive in 1993 (10% of \$100), \$30 of parts would arrive in 1994, and \$60 in parts would arrive in 1995.

The top table governs how the allocated Repairable Buy funding for each of the 4 projected years will be spread over a 4-year period. The percentages in the bottom table govern the spread of all requirements as well as the distribution of funding for Consumable Buy and Repairable Repair for all years, and Repairable Buy for historical years. Each year's distribution percentages must be equal to 1.

The user has the ability to set global lead times that affect all systems though the user would normally conduct an analysis using the individual system-specific lead times. The global lead-times are used as

default values and for specific analysis such as sensitivity tests or varying different values in the multiple system mode.

Lead Time Factors

Enter distribution of funding by percent by fiscal year.

Buy Funding Distribution				
FY	Fund Yr + 1	Fund Yr + 2	Fund Yr + 3	
1995	2%	10%	73%	18%
1996	2%	10%	73%	18%
1997	2%	10%	73%	18%
1998	2%	10%	73%	18%

Tab between Global and System specific factors.

Buy Rqmt., Repair and Consumables			
FY	Buy	Repair	Con.
FY	2%		
FY+1	10%		
FY+2	70%		
FY+3	18%		

Enter distribution percent by funding category of the RQMT.

Global ☒ UN-60

☐ Use Global factors

Click box to use the Global factors.

OK

Consumable Deficit Factor

The Consumable Deficit Factor determines what percentage of the shortfall of funding between the consumable requirement and consumable-funded levels is detracted from the delivered DLR repair funding.

Consumables Deficit Factor

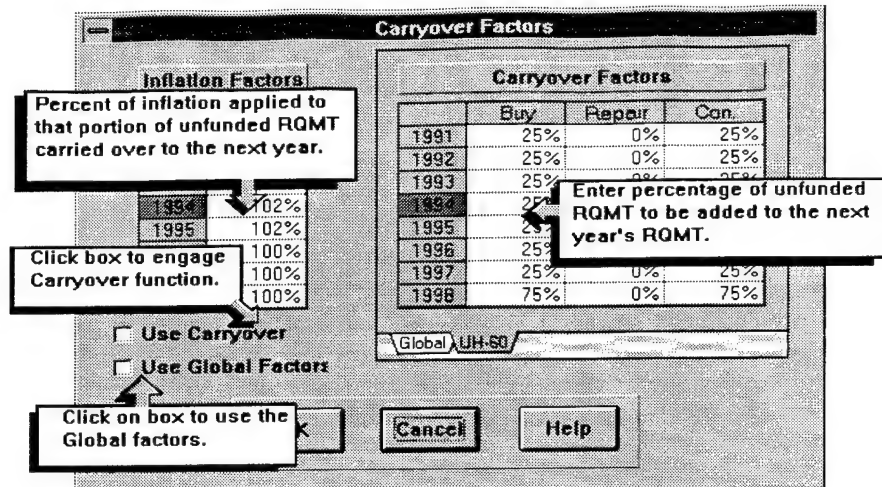
100%

Enter percent of effect a consumable funding shortfall will have on repair.

Carry Over Factors

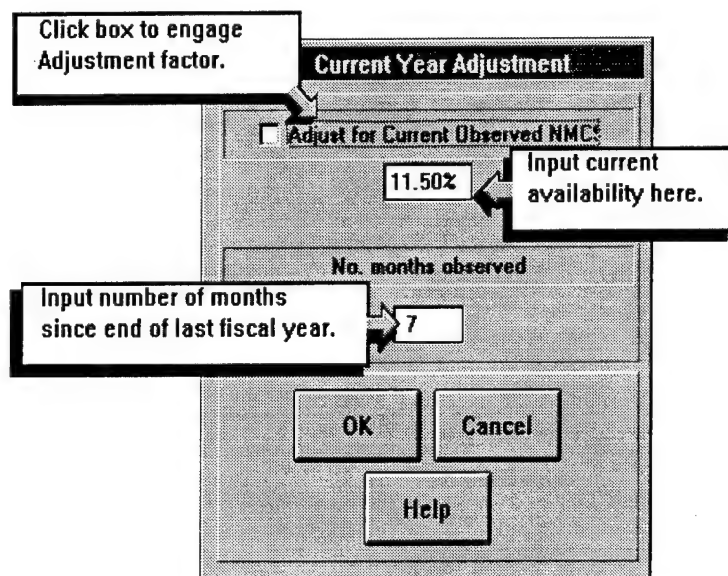
This dialog box gives the advanced user access to more sensitive policy variables. Here the user may turn the Carry Over function on or off and set the carry over factors for each year. These numbers determine what percentage of each year's unfunded requirement will be added to the next year's requirement. The Inflation Factors will be applied to that portion of unfunded requirement carried over to the next year.

As with the lead-time factors, the user can globally set the same carry over and inflation factors for all systems.



Current Year Adjustment

This dialog box allows the advanced user the ability to turn on and off the current year adjustment function. If the user has access to the most current NMCS data on the weapons system being assessed, that data may be input here along with the number of months (since the end of the last fiscal year — the base year) this NMCS has been observed. If the box is checked, the model projections will be steered toward what is actually taking place. If this type of information is not available, then the user can simply turn this function off. In Multiple System the user has the ability to globally turn on and off the current year adjustment feature for all systems being assessed. Each system in the assessment will use whatever value is entered in the Current Observed NMCS box.



Funding Limits

Refer to Standard Menu section.

Readiness Rates

Refer to Standard Menu section.

Advanced Reports

Here the user can view specific outputs in a report format. At the standard user level the user can see the Operational Cost Authority and MC Rate report and a similar report with Delivered Funding and MC Rates. The advanced user can see these reports plus three reports that display the spread of each type of funding in accordance with the lead time factors and the system administrators report. All reports can be printed and attached to an e-mail message.

DLR Buy Program Delivery Profile

The DLR Buy Program Delivery Profile displays the computation for determining delivered funding and requirement values for spares procurement, which takes the lead time distribution into account. The delivered value for a specified year represents the value of the resource that enters the logistics system during that year, which directly affects average system availability for the year. The top half of the report shows each year's contribution to the requirement for any given year. The bottom half demonstrates the similar spread of the funding. The first row displays the requirement, with carry over, for Replenishment Spares (buy), plus the Initial Spares Procurement. The next four rows contain the contributions of each previous year's requirement value to the delivered value for the specified year. The top half of the screen displays the resulting requirements for each year, and the bottom half of the screen displays the funding received for each year. At the very bottom, the percentage of the requirement that was actually received is shown.

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1/13/96 1:40:41 PM

DLR Buy Delivery Profile

Weapon System:	OE-60				DataSet:	C:\ARMYFAM\DATA\NEWFAMDS			
Dollars in Millions	1991	1992	1993	1994	1995	1996	1997	1998	
OCA DLR Buy Rqmt	183.4	88.4	55.4	40.6	32.1	32.1	32.1	32.1	
Rqmt Deliv. YRN-0	3.7	1.8	1.1	0.8	0.6	0.6	0.6	0.6	
Rqmt Deliv. YRN-1	0.0	18.3	8.8	5.5	4.1	3.2	3.2	3.2	
Rqmt Deliv. YRN-2	0.0	0.0	128.4	61.9	38.8	28.4	22.5	22.5	
Rqmt Deliv. YRN-3	0.0	0.0	0.0	33.0	15.9	10.0	7.3	5.8	
Total Rqmt Deliv.					59.4	42.2	33.6	32.1	
OCA DLR Buy Funding	100%	80%	50%	20%	32.1	32.1	32.1	32.1	
Funding Deliv. YRN-0	3.7	1.8	1.1	0.8	0.6	0.6	0.6	0.6	
Funding Deliv. YRN-1	0.0	18.3	8.8	5.5	4.1	3.2	3.2	3.2	
Funding Deliv. YRN-2	0.0	0.0	128.4	61.9	38.8	28.4	22.5	22.5	
Funding Deliv. YRN-3	0.0	0.0	0.0	33.0	15.9	10.0	7.3	5.8	
Total Funding Deliv.	0.0	0.0	0.0	101.2	59.4	42.2	33.6	32.1	
Pct Deliv. Rqmt	0%	0%	0%	100%					

Funding is delivered according to leadtime percentages.

Four years of OCA funding is required to determine one year of delivered funding.

1 of 1 [Cancel] [Print] [Close]

DLR Repair Delivery Profile

The distribution lead time for repairs is analogous to the DLR Buy Program Delivery Profile. The Consumable Effect Factor impact is subtracted from the Total Funding Delivered to obtain the Effective Repair Funding Value.

1/13/96 2:01:03 PM

DLR Repair Delivery Profile

Weapon System: **UH-60** DataSet: **C:\ARMYFAM\DATA\NEWFAM.D**

Dollars in Millions	1991	1992	1993	1994	1995	1996	1997	1998
OCA Repair Rqmt	73.3	23.2	14.2	106.6	136.7	136.7	136.7	136.7
Rqmt Deliv. YR N-0	44.0	13.9	8.5	64.0	82.0	82.0	82.0	82.0
Rqmt Deliv. YR N-1	0.0	29.3	9.3	5.7	42.6	54.7	54.7	54.7
Rqmt Deliv. YR N-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rqmt Deliv. YR N-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Rqmt Deliv.	0.0	0.0	0.0	69.7	124.6	136.7	136.7	136.7
OCA Repair Funding						136.7	136.7	136.7
Funding Deliv. YR N-0						82.0	82.0	82.0
Funding Deliv. YR N-1						54.7	54.7	54.7
Funding Deliv. YR N-2						0.0	0.0	0.0
Funding Deliv. YR N-3						0.0	0.0	0.0
Total Funding Deliv.	44.0	43.2	17.8	69.7	124.6	136.7	136.7	136.7
Pot Deliv. Rqmt	0%	0%	0%	100%	100%	100%	100%	100%
Consumables Impact	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eff Repair Fund	0.0	0.0	0.0	69.7	124.6	136.7	136.7	136.7

OCA funding and RQMT is displayed horizontally. OCA delivered funding and RQMT is displayed vertically.

The effective repair funding is the delivered funding minus the percent of unfunded consumable requirement.

Close 22 of 22 Total: 22 100%

Consumables Delivery Profile

The Consumable Delivery Profile displays the computation for determining total delivered funding and total delivered requirement values for spares procurement, which takes the lead time distribution into account. The delivered value for a specified year represents the value of the resource that enters the logistics system during that year, which directly affects weapons system availability for the year. The top half of the screen displays the resulting requirements for each year, and the bottom half of the screen displays the funding received for each year. Below the funding schedule, the total funding delivered as a percentage of the requirement is displayed.

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1/13/96 2:15:11 PM

Consumables Delivery Profile

Weapon System: **UH-60** DataSet: **C:\ARMYFAM\DATA\NEWFAM.D**

Dollars in Millions	1991	1992	1993	1994	1995	1996	1997	1998
OCA Consumables Rqmt	36.9	55.2	70.1	20.9	14.4	14.4	14.4	14.4
Rqmt Deliv. YR N-0	0.0	24.6	36.8	46.7	13.9	9.6	9.6	9.6
Rqmt Deliv. YR N-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rqmt Deliv. YR N-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rqmt Deliv. YR N-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Rqmt Deliv.	0.0	0.0	0.0	67.6	28.3	24.0	24.0	24.0
OCA Consumables Fund	61.5	92.0	116.8					
Funding Deliv. YR N-0	36.9	55.2	70.1					
Funding Deliv. YR N-1	0.0	24.6	36.8					
Funding Deliv. YR N-2	0.0	0.0	0.0					
Funding Deliv. YR N-3	0.0	0.0	0.0					
Total Funding Deliv.	0.0	0.0	0.0	67.6	28.3	24.0	24.0	24.0
Pot Deliv. Rqmt	0%	0%	0%	100%	100%	100%	100%	100%

The amount of delivered funding for any one year is based upon the leadtime factors.

The amount of consumable delivered funding affects the amount of DLR Repair funding.

1 of 1 Cancel Close 23 of 23 Total: 23 100%

System Administrator's Report

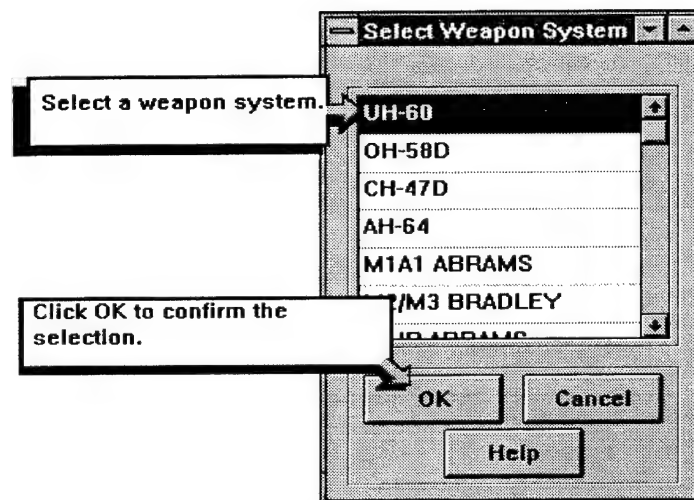
This report is essentially a data dump for the system administrator to test the calculator. It contains all inputs, policy variables, model calibrating factors, and outputs in a text format.

Single System Mode

The Single System Army FAMMAS allows the user to assess one system at a time. To run a single system analysis choose Single System from the Standard Menu and select a system from the list.

Select System

Allows the user to choose the weapons system to be assessed. When a data set is initially opened, no weapons system is selected. In order to select the weapons system, the user must select the Single System option from the menu, highlight the desired weapons system and click OK. The selected system will be displayed on the status bar.



Single System Analysis

This menu option activates the assessment mode of ARMY FAMMAS. The Assessment Menu, MC Rate window, Funding and Maintenance window for the selected weapons system will appear on the screen.

MC Rate Window

In this window, the user can see an 8-year summation of the system historical data (base year, base year-1, base year-2, base year-3) and projected analysis (base year, base year+1, base year+2, base year+3). The base year is highlighted in green. The data shown are MC Rate, Availability, NMCS and NMCM Rates, Total Repairable Requirement, Total Repairable Funding and Total Percent Funded. This screen provides the user with an overall view of the system's readiness and funding posture.

FAMMAS - [UH-60]								
Edit Analysis Graphs Reports Tools Help								
The Base Year is highlighted in green.								
	1991	1992	1993	1994	1995	1996	1997	1998
MC Rate	65.19%	66.15%	64.42%	68.65%	73.87%	75.89%	76.38%	75.86%
Availability (1 - NMCS)	87.09%	91.96%	92.42%	91.97%	91.04%	90.53%	90.27%	90.14%
Displays historical and projected NMCS and NMCM readiness rates.								
	1991	1992	1993	1994	1995	1996	1997	1998
NMCS	12.91%	8.04%	7.58%	8.03%	8.96%	9.47%	9.73%	9.86%
NMCM	21.90%	25.81%	28.00%	23.32%	17.17%	14.64%	13.89%	14.27%
Funding summary of total O.C.A. funding and RQMT.								
	1991	1992	1993	1994	1995	1996	1997	1998
Total Rqmt	318.2	203.6	186.4	174.6	200.3	154.7	141.6	130.9
Total Funding	318.2	203.6	186.4	174.6	200.3	154.7	141.6	130.9
Total Percent	100%	100%	100%	100%	100%	100%	100%	100%
Toggle between summary screen and detailed information screens.								
Dollars in Millions								
MC Rates / Funding / Maintenance / Help								
Unclassified	1994	Standard	Single	UH-60	C:\ARMYFAM\DATA\FAMDS2			

Funding Window

In this window, the user can input funding amounts. All white boxes are editable and all yellow boxes are uneditable. At the standard user level, all historical funding numbers are uneditable, however the advanced user level lifts this restriction so the user can run what-if funding scenarios. The four types of funding used by Army FAMMAS are DLR Buy, DLR Repair, Consumable, and Initial Spares. The user can edit the values in the white cells by clicking on the desired cell to select it, typing in the new value, and pressing enter. For each funding category, there are three variables: Requirement, Funding, and Percent. The model will automatically calculate two of these variables: Funding and Percent. The user can input one of these variables and the model will automatically recalculate the other variable and show the result.

Once the user has input all of the desired funding numbers, the resulting delivered funding can be seen by clicking on the Delivered Funding button. The delivered funding is the amount of parts arriving each year based on the fiscal obligation authority and delivery schedule (Lead Time Factors). All of these delivered funding amounts are uneditable and in yellow boxes. The initial spares funding is rolled into the Repairable Buy for delivery. The user can toggle back and forth between Operational Cost Authority and Delivered Funding by clicking the respective buttons to arrive at a designated delivered amount in a certain year.

As each input is made, the user may simultaneously view the resulting changes in projected availability on the NMCS Rate row.

FAMMAS - [UH-60]

Edit Analysis Graphs Reports Tools Help

	1991	1992	1993	1994	1995	1996	1997	1998
Consumables Rqmt	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Consumables Funding	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Percent	100%	100%	100%	100%	100%	100%	100%	100%
DLR Buy Rqmt	183.4	88.4	55.4	40.6	32.1	32.1	32.1	32.1
DLR Buy Funding	183.4	88.4	55.4	40.6	32.1	32.1	32.1	32.1
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Initial Spares Rqmt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Spares Funding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percent	100%	100%	100%	100%	100%	100%	100%	100%
DLR Repair Rqmt	73.3	23.2	14.2	106.6	136.7	136.7	136.7	136.7
DLR Repair Funding	73.3	23.2	14.2	106.6	136.7	136.7	136.7	136.7
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Total Rqmt	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Funding	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Percent	100%	100%	100%	100%	100%	100%	100%	100%
NMCS	38.90%	9.88%	9.94%	9.97%	9.88%	9.94%	9.97%	9.97%
Change in NMCS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Dollars in Millions

Operating Cost Authority Delivered

MC Rates Funding Maintenance Help

Unclassified 1994 Standard C:\ARMYFAM\DATA\NEWFAMDS

Displays the Operational Cost Authority funding categories.

White boxes are editable.

Display summation of Operational Cost Authority.

Yellow boxes are uneditable.

Displays NMCS results and percent change from baseline.

Toggle between OCA funding and delivered funding screens.

Maintenance Window

The user can input maintenance data in this window. All white boxes are editable and all yellow boxes are uneditable. At the standard user level, all historical funding numbers are uneditable, however the advanced user level lifts this restriction so the user can run historical what-if funding scenarios. The four data elements used by Army FAMMAS are OPTEMPO, percentage of Direct Maintenance Fill, percentage of Indirect Maintenance Fill, and Maintenance Manpower Utilization rate. The user can edit the values in the white cells by clicking on the desired cell, typing in the new value, and pressing Enter.

FAMMAS - [UH-60]

Edit Analysis Graphs Reports Tools Help

	1992	1993	1994	1995	1996	1997	1998	1999
Optempo (hours/sys/mo)	12.830	12.830	12.410	14.500	14.500	14.500	14.500	14.500
Direct Maint Fill %	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
Indirect Maint Fill %	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
Manpower Util Rate	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%

Enter historical and projected maintenance variables.

Enter projected data in the white boxes.

Yellow boxes are uneditable.

	1992	1993	1994	1995	1996	1997	1998	1999
NMCM	25.81%	28.00%	23.32%	24.29%	30.00%	30.00%	30.00%	30.00%
Change in NMCM	0.00%	0.00%	0.00%	14.29%	20.00%	20.00%	20.00%	20.00%

Displays NMCM results and percent change from baseline.

MC Rates Funding Maintenance Help

Unclassified 1995 Standard Single UH-60 C:\ARMYFAM\DATA\FAMDS

Multiple System Mode

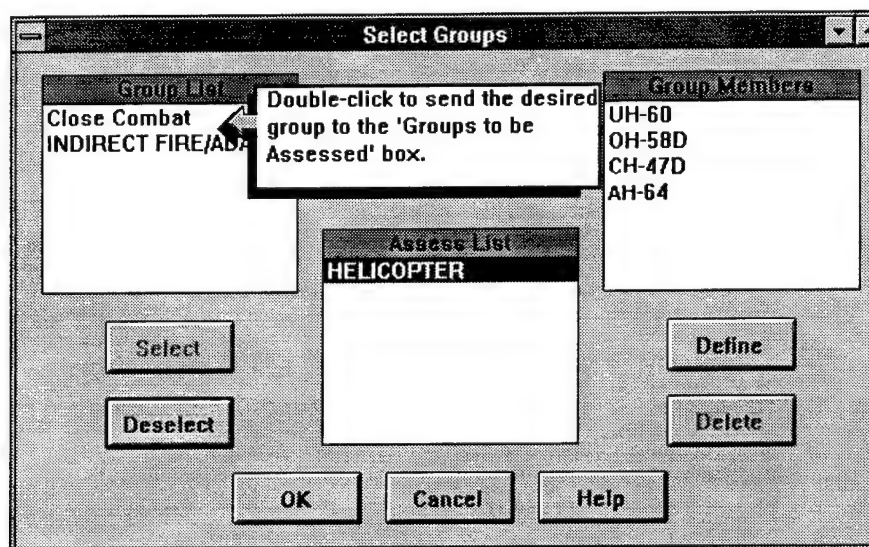
After selecting the Multiple System option from the Analysis menu in Single System Mode, the user will enter the Multiple System Mode of Army FAMMAS. The menu will become inactive, and the Select Groups dialog box will appear.

Select Groups

The Select Groups dialog box automatically appears upon entry into Multiple System Mode but can also be accessed through the analysis menu at any time during an assessment. Here the user can select the desired groups to be assessed by Multiple System ARMY FAMMAS. The model includes some predefined groups from which to choose. These will appear in the Groups box in the upper-left corner of the screen. Highlighting a group with a single click of the mouse will display the members of that group in the Group Members box on the right. The user can select that group to be assessed by double-clicking on it in the Groups box or clicking the Select button when that group is highlighted in that box. When a group is selected for an assessment it will be omitted from the Groups box and included in the Groups To Be Assessed box.

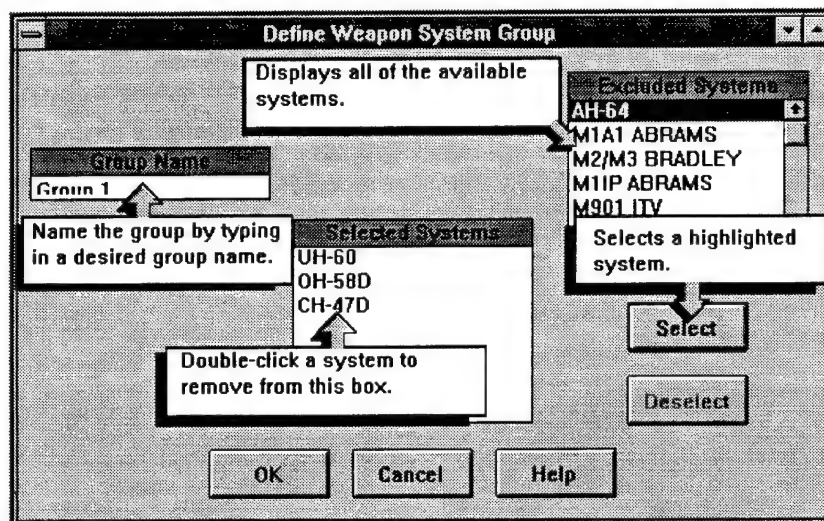
Once a group has been selected for an assessment, it can be highlighted in the Groups To Be Assessed box and its members will appear in the Group Members box. To omit a group from an assessment the user can deselect it by double-clicking on it in the Groups To Be Assessed box or clicking Deselect when that group is highlighted in that box. This will remove the group from the Groups To Be Assessed box and return it to the Groups box.

If the user wishes to define a new group and add it to the list of predefined groups, the Define button will access a new dialog box to perform this function. Once a group is defined the user will return to this screen, and the new group must be selected for the assessment if so desired. To delete a predefined or user-defined group the user can click the Delete button while the group is highlighted in the Groups box. To add or delete weapons system from an existing group the user must delete that group and rebuild it using the Define function. All buttons will be activated and deactivated according to what functions are appropriate at any time during the process. Once all of the desired groups have been selected the OK button will exit this dialog box and return the user to the Multiple System Menu.



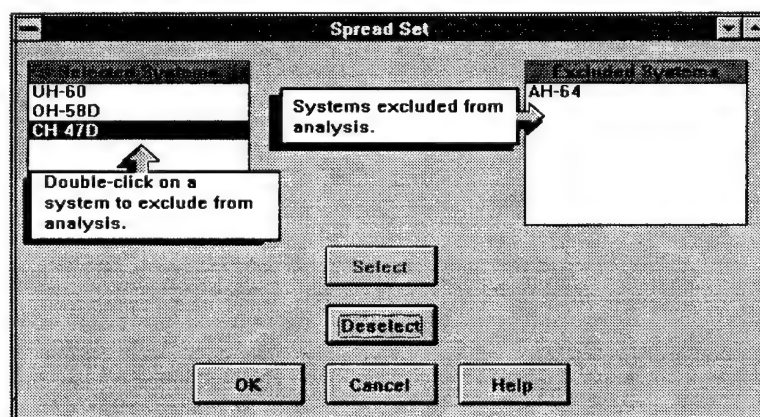
Define Groups

Once the user has clicked the Define button on the Select Groups dialog box, the Define Groups dialog box will appear. The user must first name the new group by typing in a name in the designated box in the upper-left corner. The user can then build the group by selecting weapons system from the box on the right. The Excluded Systems box displays a list of all weapons system to choose from. A weapons system can be included in the group by double-clicking on it in the Excluded Systems box or by clicking the Select button while the weapons system is highlighted in that box. This will remove a weapons system from the Excluded Systems box and include it in the Selected Systems box. To remove a weapons system from a group, the user can double-click on that weapons system in the Selected Systems box or click the Deselect button while that weapons system is highlighted in that box. Once the user has built the desired group the OK button will return the user to the Group Weapons system dialog box and the new group will appear in the Groups dialog box. If the user wants to assess this group, it must be selected here.



Excluding Systems

The user has the option to exclude any system selected from the assessment. All of the systems in the assessment will be displayed in the upper-left box. If the user wishes to exclude any systems from the eminent funding allocation, double-click on the systems while in the systems box or the Deselect button can be clicked while the system is highlighted. Excluded systems will appear in the box on the upper right. Systems can be moved back and forth between boxes just as they are in the Group Systems box.



Multiple System Analysis

Perform Multiple System Analysis

This option will activate the assessment mode of Multiple System Army FAMMAS. The user is given three assessment options: User Input, Proportional, and Optimal. The User Input option runs the assessment as is and automatically brings the user to the Multiple System screen. When Proportional is checked, any funding that is added/cut will be divided evenly among the systems. The user is given the additional options to spread the total funding amount or restrict a certain amount of funding as a floor. The Optimal allocation process allows the user to spread funding across systems. For a more detailed explanation of the Proportional and Optimal allocation algorithms, please see the Army FAMMAS Functional Description.

Proportional Assessment

Once the Proportional Assessment is selected, the user has to choose between spreading the total amount of funding or to restrict a certain amount of the total funding as a floor. At this point a dialog box will appear asking the user if he or she wishes to exclude any systems from the funding allocation.

Once the user establishes the systems to be assessed, the Spread Parameters box appears. Here the user may enter a new funding amount for the assessment and which year the money will be spread.

The screenshot shows a dialog box titled "Spread Parameters". It contains four input fields with callout boxes pointing to them:

- Callout: "Enter year whose funding will be affected." points to the "Year to Spread Funds" field, which contains "1995".
- Callout: "Enter total amount of funding to be spread." points to the "Total Funding to Spread" field, which contains "72.4".
- Callout: "Calculate amount of funding to spread by inputting a percent." points to the "Percent of Rqmt to Spread" field, which contains "100%".
- The "Total Funding" field contains "72.4".

At the bottom of the dialog box are three buttons: "OK" (with a checkmark icon), "Cancel" (with an 'X' icon), and "Help" (with a question mark icon).

Optimal Assessment

The Optimal assessment function allows the user to spread funding across systems to reach a determined Availability target or system-specific Availability target. The user inputs the year to spread funds and the amount of funds to be spread over a 3-year period. The user has the ability to determine which year's weapons system availability results has a higher priority. For a more detailed explanation of the Optimal allocation algorithm, please see the Army FAMMAS Functional Description.

Spread Parameters

Enter year whose funding will be affected.

Year to Spread Funds: 1995

Total Funding: 72.4

Total Funding to Spread: 72.4

Enter amount to spread by inputting a dollar amount or percent funding.

Percent of Rqmt to Spread: 100%

1st Priority Year: 1995

Enter years to determine which year's availability results has a higher priority.

2nd Priority Year: 1996

3rd Priority Year: 1997

OK Cancel ? Help

Summary Screen

The Summary screen shows the cumulative and individual results of a multiple system assessment. The multiple screen displays the Total Buy Operational Cost Authority (OCA) Funding and Requirement for the weapons systems assessed. It also displays by year the amount of funding distributed to each system and the target availability. On the right side of the screen the user can view either the Expected Availability or Mission Capable rate for the base year plus 4 years. Located on the bottom of the screen are tabs with the names of the systems assessed. Clicking on a system's Tab will bring the user to the funding window for that system. At this level of the assessment, the model is like Single System Army FAMMAS. The individual funding window will allow the user to change the funding data for the system and see the results on the multiple screen. The user exits a system funding screen and returns to the Multiple screen by clicking on the box in the lower-right corner of the assessment screen. Army FAMMAS can include an unlimited number of systems in a multiple assessment, but it is advisable to restrict the number of systems for easier data manipulation.

FAMMAS - [Multiple System Analysis]

Edit Cumulative OCA funding for assessed systems. Tools Help

	1991	1992	1993	1994	1995	1996	1997	1998
Total OCA Rqmt	487.3	325	210.4	135.2	113.4	116.3	116.3	116.3
Total OCA Funding	487.3	325	210.4	135.2	113.4	116.3	116.3	116.3
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Fenced OCA Funding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

View expected availability or expected MC rate results.

	OCA Buy	Percent	MC	1994	1995	1996	1997	1998
UH-60	40.6	100%	76.22%	90.46%	90.23%	90.12%	90.06%	90.03%
CH-53	4.1	100%	82.00%	90.09%	90.04%	90.02%	90.01%	90.01%
CH-47D	11.2	100%	82.00%	90.09%	90.04%	90.02%	90.01%	90.01%
AH-64	49.7	100%	82.00%	90.09%	90.04%	90.02%	90.01%	90.01%
M103 HOWITZER	5.4	100%	85.00%	94.33%	94.17%	94.08%	94.04%	94.02%
M198 HOWITZER	0.2	100%	86.00%	94.10%	94.05%	94.02%	94.01%	94.01%

Dollars in Millions

Operating Cost Authority

Delivered

Select year to view results.

1994

Toggle to view the OCA or Delivered funding results.

Toggle between the Detail and Summary screens.

UH-60 CH-53 CH-47D AH-64 M103 HOWITZER M198 HOWITZER PATRIOT Detail Summary Help

Unclassified 1994 Advanced Multiple C:\ARMYFAM\DATA\NEWFAMDS

Detail Screen

The detail screen allows the advanced user to perform complex manual analysis. The detail screen displays all relevant availability and funding values. The user can toggle between the different values to analyze the relationship and results of the analysis.

FAMMAS - [Multiple System Analysis]

Edit Analysis Graphs Reports Tools Help

	1991	1992	1993	1994	1995	1996	1997	1998
UH-60	183.4	88.4	55.4	40.6	39.1	51.8	31.3	25.7
OH-58D	25.7	16.1	2.6	6.6	11.7	7.9	9.7	9.7
CH-47D				11.2	4.3	10.3	3.3	3.3
AH-64				51.9	27.8	55.5	68.9	68.5

Select which DLR Buy funding value to view or edit.

Buy Funding Values (\$ in Millions)

☒ Requirement
☐ OCA Fund. In \$
☐ Delivered Fund. In \$

☐ OCA Fund. As %
☐ Delivered Fund. As %
☐ Max OCA Fund. In \$

☐ Min OCA Fund. In \$
☐ Max OCA Fund. As %
☐ Min OCA Fund. As %

	1991	1992	1993	1994	1995	1996	1997	1998
UH-60	12.91%	8.04%	7.58%	8.03%	8.96%	9.47%	9.73%	9.86%
OH-58D	14.80%	8.81%	6.68%	5.84%	7.64%	8.74%	9.35%	9.67%
CH-47D			5.17%	5.23%	7.23%	8.50%	9.22%	9.60%
AH-64			11.90%	15.83%	12.58%	11.22%	10.59%	10.29%

Select which Availability value to view or edit.

Availability Values

☒ NMCS
☐ NMCM

☐ MC Rate
☐ Actual/Predicted Avl.

Click to return to the Summary Screen.

UH-60 OH-58D CH-47D AH-64 M1A1 ABRAMS M2/M3 BRADLEY M901 ITV

Unclassified 1994 Advanced Multiple

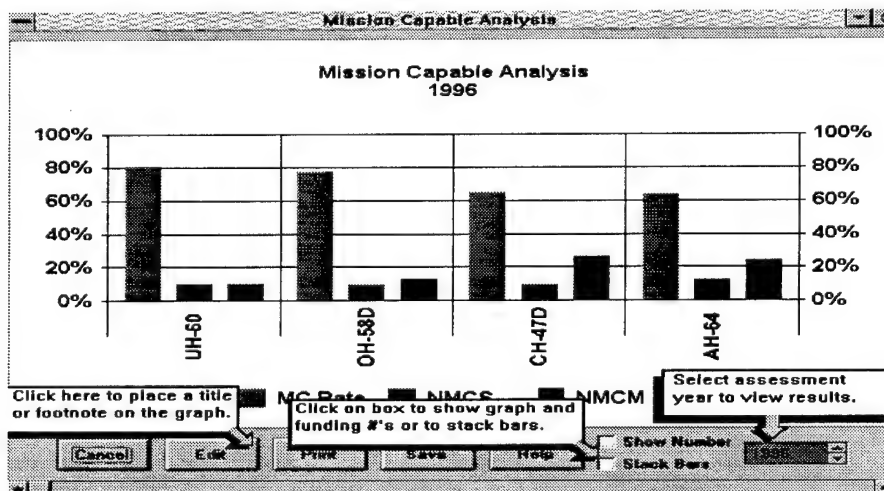
C:\ARMYFAM\DATA\FAMDS2

Graphs

The funding profile, availability projection, and calibration curve graphs are identical to the single system mode. In order to view these graphs in the multiple system mode, the user must select a weapons system.

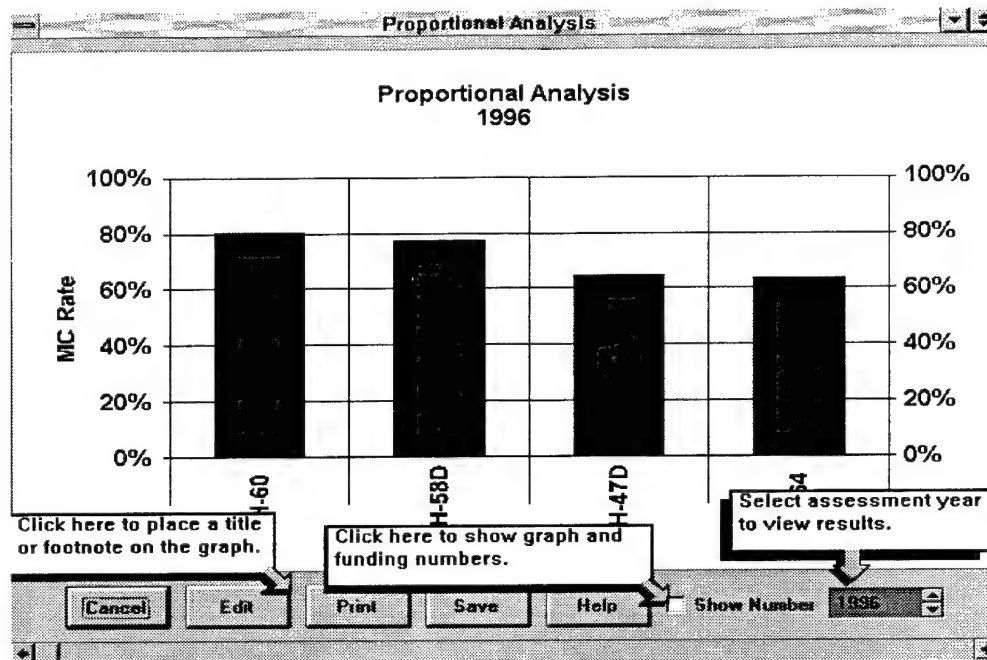
Mission Capability (MC) Analysis —Multiple System

The multiple system MC graph differs from the single system graph by displaying multiple systems for a 1-year period. The single system graph displays one single for multiple years.



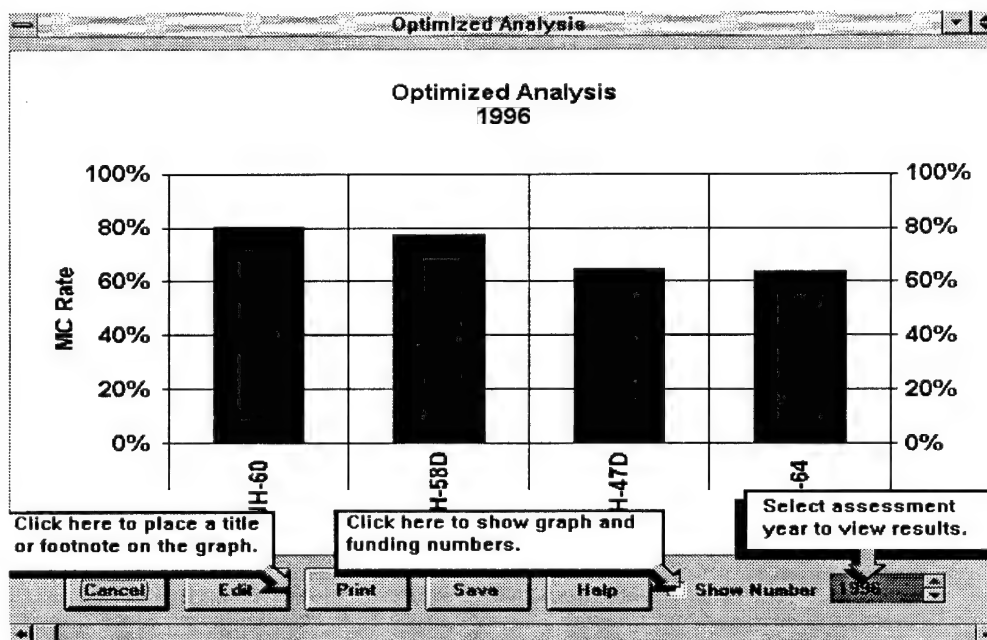
Proportional Analysis

The Proportional analysis graph displays a yearly bar chart of the availability (1-NMCS) results for all systems assessed.



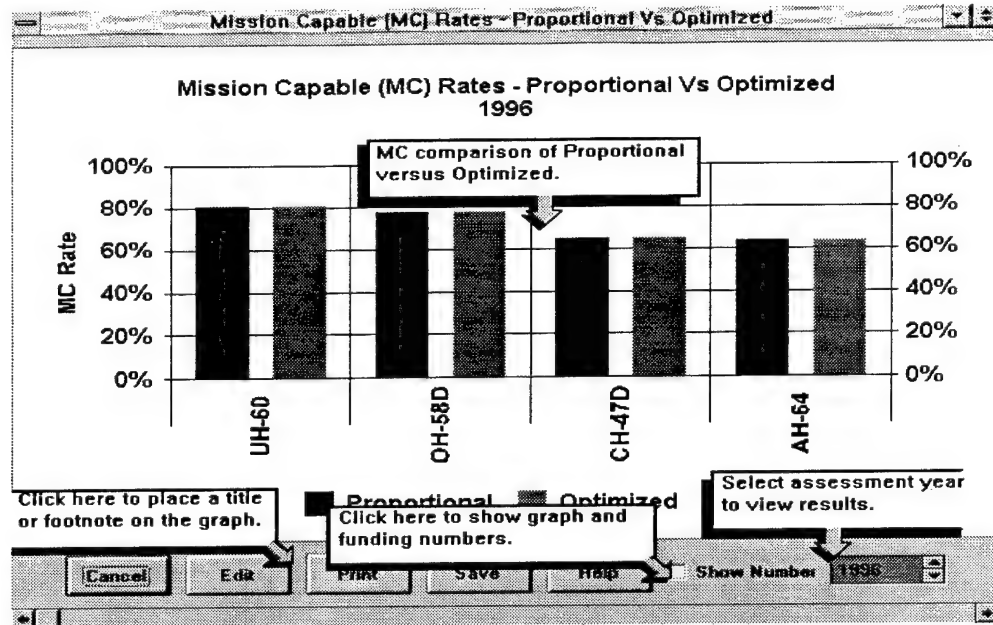
Optimized Analysis

The Optimized graph displays the results from an optimized funding scenario. The results are displayed in terms of availability (1-NMCS).



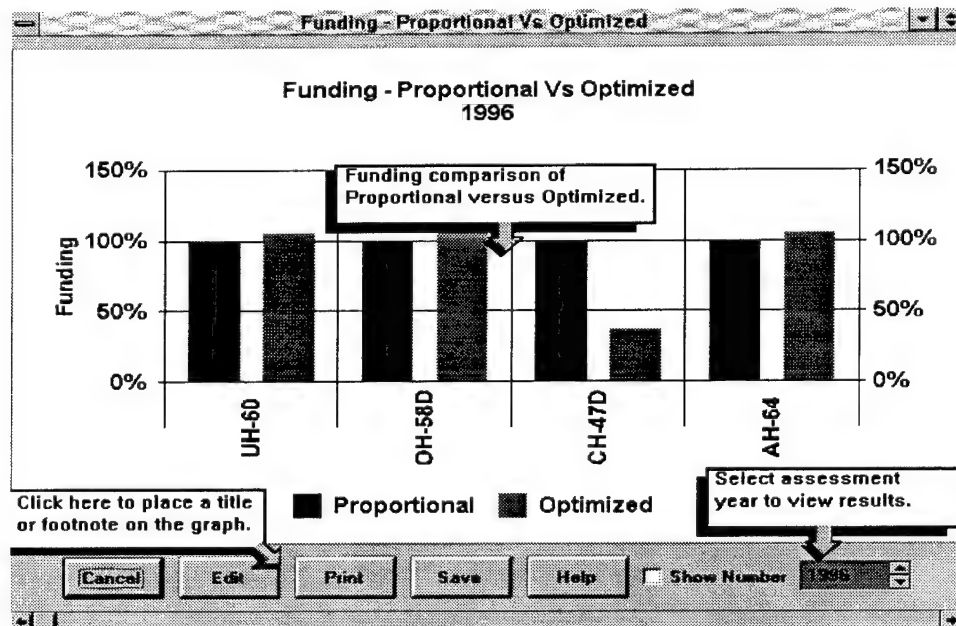
Mission Capable — Proportional vs. Optimized

The MC — Proportional vs. Optimized graph displays a graphical yearly comparison of the proportional analysis and an optimized analysis in terms of system MC. The graph displays MC on the Y-axis and the systems on the X-axis.



Funding — Proportional vs. Optimized

The Funding — Proportional vs. Optimized graph displays a graphical yearly comparison of the proportional analysis and an optimized analysis in terms of funding results. The graph displays percentage funding on the Y-axis and the systems on the X-axis.



Reports

The reports menu option will appear only during an assessment — that is, a Funding and MC Rate window must be active to run a report. The two reports available in all levels of assessment and analogous to Single System Army FAMMAS are Operational Cost Authority Funding and MC Rates and Delivered Funding and MC Rates. During assessments at the Fleet and Group level, the Funding and MC Rate reports will look like the Single System report; however, they will display the appropriate level of aggregation. The Group Summary is a new report unique to Multiple System Army FAMMAS and will access different data at each assessment level.

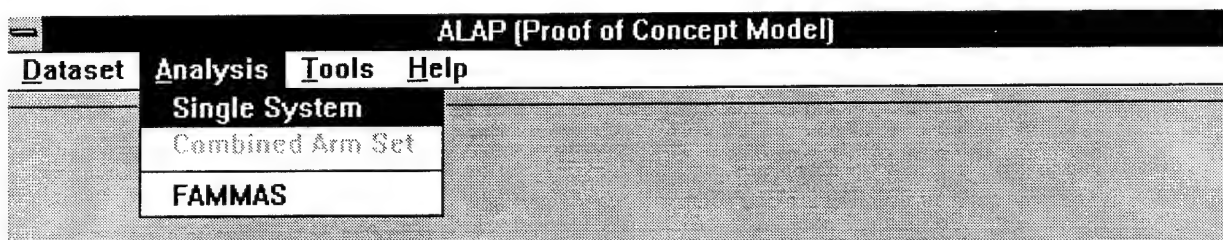
Group Summary

The Multiple System Group Summary Report includes a summary of each weapons system in the group and the group total. If the user is accessing the assessment at the group level, this report will list all weapons system in the group. A funding percentage and an MC Rate will be displayed for each weapons system for each year along with the aggregate funding percentage and average MC Rate for each year. The funding percentages displayed are the sums of all funding categories for each weapons system in each year. The group funding percentage is the sum of all categories for all weapons system in the group for each year.

Army Logistic Assessment Program (ALAP) Proof-of-Concept Model

Initial Menu

After the User has ran Army FAMMAS and a sustainment assessment is desired, the user should first save the FAMMAS analysis and then choose cancel under the Analysis menu. Choose Analysis again and click on ALAP. This procedure will take the user to the first ALAP specific menu, and will also ensure that all data from the analysis just conducted in FAMMAS are saved while at the same time guaranteeing the import of the appropriate NMCM and NMCS data into the ALAP POCM. Although it is not necessary to run FAMMAS prior to accessing ALAP, it is suggested that the user do so to guarantee that ALAP imports the correct NMCM and NMCS data.



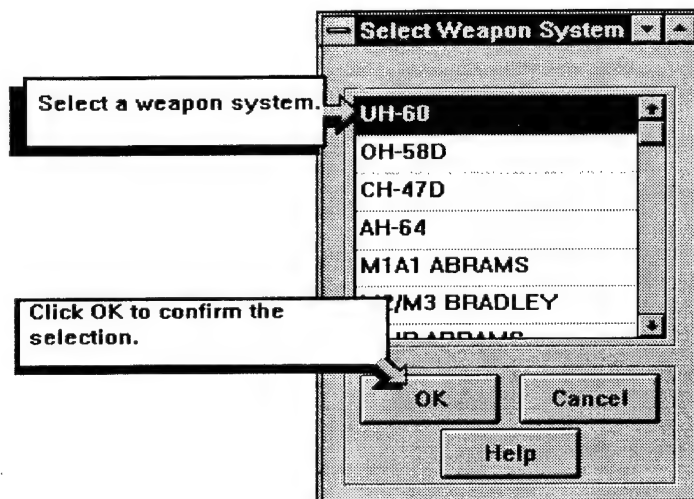
This menu offers the user a choice of running a single system assessment under ALAP or returning to Army FAMMAS. A third choice of running an assessment on a Combined Arms set of systems has been disabled. This choice could not be offered in the POCM due to the incompleteness of the data and the time required to complete the analysis and programming for this function.

Single System

The Single System ALAP functions much as the Single System mode of Army FAMMAS, it allows the user to assess one system at a time. To run a Single System analysis select a system from the list that appears after choosing ALAP from the Analysis Menu.

Select System

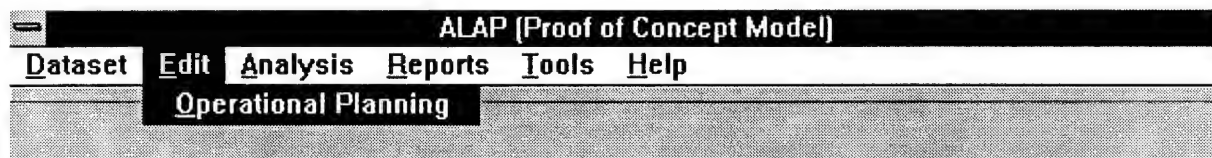
This selection process is conducted similar to the process in FAMMAS; in fact, the Single System selection screen that appears in Army FAMMAS is also used here in the ALAP POCM. This screen allows the user to choose the weapon system to be assessed. A weapon system must be selected even if the user is coming from run in the Army FAMMAS. In order to select the weapon system, the user must highlight the desired weapon system and click OK. The selected system will be displayed on the status bar.



After the User clicks on OK, ALAP reverts to the Standard Menu Screen. From here, Edit is chosen to configure the scenario to conduct the analysis.

Edit

Unlike the Army FAMMAS menu, where edit gives the user a variety of choices, the edit screen in the ALAP POCM gives but one choice, Operational Planning.



Operational Planning

In this window, the User chooses which Theater of Operation, or Area of Responsibility (AOR) to deploy weapon system. The choice of AOR will effect the OPTEMPO. For the POCM, weapon system utilization and OPTEMPO were given a hard-coded association to AOR. Each weapon system's OPTEMPO may vary depending on which

AOR the User inputs. For example, if the User chooses the M1 Abrams and picks Europe as the AOR, the M1's OPTEMPO may be 4.8 hours of operation per day, but if the Arctic AOR were chosen, OPTEMPO would only be 3.8 hours.

OPTEMPO for every system in the POCM is expressed as hours of operation. Understandably, this is an unrealistic OPTEMPO for every system, but this was a necessary trade-off between time and inclusion of all 16 SORTS systems. The original development of the POCM called for the capability of performing sustainment analysis on a system under varying OPTEMPOs. However, due to the unavailability of the needed data and time, this option was left out of the model.

ALAP (Proof of Concept Model)

Dataset Edit Analysis Reports Tools Help

Operational Planning Data

Force Structure Records	
EUSA	18
FORSCOM	281
TRADOC	84
USAREUR	135
USARPAC	0
USARSO	0
USASOC	0

Wartime Tasking Records	
EUSA	0
FORSCOM	0
TRADOC	0
USAREUR	0
USARPAC	0
USARSO	0
USASOC	0

Total: 0

Theater 1 Theater 2

Theater

ARTIC
CONUS
EUROPE
KOREA
MIDEAST
PACIFIC

☐ Attrition

OK Done Cancel Help

From the wartime Tasking Record box, the User inputs the number of weapon systems to be deployed from each MACOM. After typing in the number, pressing return will cause a total number of systems selected to appear in the window at the bottom of the box. To select the AOR to deploy the systems the User clicks on the Theater to highlight the choice. Once the AOR, supporting MACOMs, and number of systems have been picked, the User can configure a second Theater, or Region to portray hostilities. An attrition function has been added to the ALAP POCM, which can be turned on or off at the Users discretion.

The attrition function is a randomizing variable calculating system losses between the upper and lower limits of an attrition rate provided by the Training and Doctrine Command for use in its Operations Logistic Plan (OPLOGPLAN) model.

Analysis/Summary Screen

This window shows the results of a sustainment assessment based on the User's input and the chosen weapon system. This screen is displayed once the User has finished inputting the Operational Planning data and clicking on Done. Clicking on any button other than Done will put the user back to the Standard Menu Screen.

ALAP (Proof of Concept Model)						
Dataset Edit Analysis Reports Tools Help						
Operational Planning Data						
Wartime Outputs						
Total Deployed Systems	414					
Days	1	2	3	4	5	
Systems Mission Capable	414	386	361	338	317	298
Systems Waiting Parts	0	0	0	0	0	0
Systems Waiting Maintenance	28	25	23	21	19	17
Repaired Systems	12	12	12	12	12	12
Minimum MC 0.98						
EUROPE						
OK						

This screen shows the total number of systems originally deployed, and systems mission capable, systems down for parts, systems down for maintenance, and those brought back to Mission Capable statues by days end for each day in the 15 day scenario. The model also calculates the Minimum Mission Capable (from a maintenance biased perspective) rate needed to successfully prosecute the war effort.

The outputs displayed on the screen are only a few of the calculation the POCM executes. The choice for displaying these output was based solely on the order in which the model gathers data; with a minimum of programming effort, the model can be configured to display other data.

Reports

The reports menu option will always be present from the moment the User enters the ALAP POCM; however, not all reports will contain data until an analysis has been run.

To get to the reports menu from the Analysis/Summary Screen, the User will click on the OK button that is at the center of the bottom part of the screen. Then click on the OK button on the Operational Planning Data screen. Clicking on Cancel will remove any analysis performed, and clicking on Done will place the User back at the Analysis/Summary Screen.

Once out of the Operational Planning Data screen, the User may access the Reports menu by clicking on Reports. Once this is done the POCM gives an option of viewing Peacetime Data, or Wartime Data.

ALAP (Proof of Concept Model)					
Dataset	Edit	Analysis	Reports	Tools	Help
Peacetime Reports					
Wartime Reports					

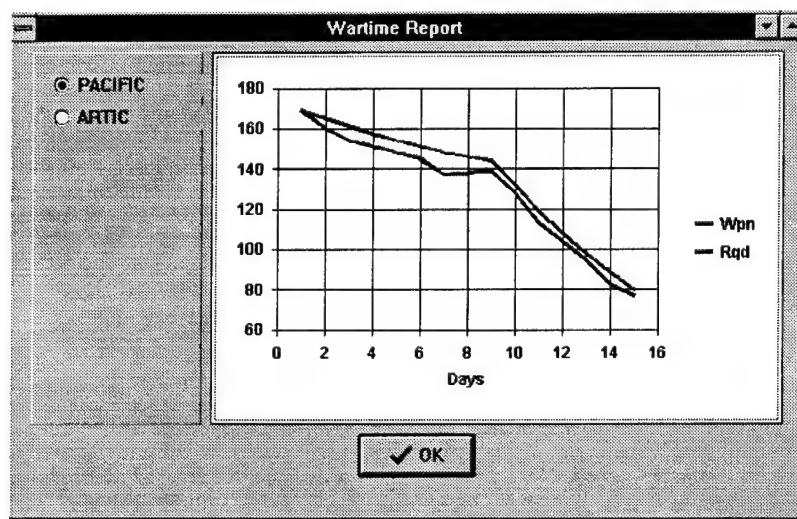
Peacetime Reports

The Peacetime report is a dual columnar chart that shows Peacetime Actual/Projected NMCM, NMCS, and MC by year, and Wartime Minimum NMCM and Minimum NMCS. This report can be accessed anytime after opening the ALAP POCM. The Peacetime data are imported from Army FAMMAS and are available anytime after a weapon system has been selected. The wartime minimums are not accessible in this POCM model — development and programming time were insufficient to make this feature functional. Clicking on the OK button will bring the User back to the Standard Menu Screen.

Peacetime Report			
Actual/Projected			Wartime
1991	0.11357	0.20491	0.68152
1992	0.0961	0.2486	0.6553
1993	0.072	0.282	0.646
1994	0.0874	0.2362	0.6764
1995	0.0772	0.2429	0.6799
1996	0.09463	0.1	0.80537
1997	0.09463	0.1	0.80537
1998	0.09463	0.1	0.80537
1999	0.06863	0.08	0.85137
2000	0.08076	0.08	0.83924
2001	0.11181	0.08	0.80819

Wartime Reports

The wartime report consists of graphs of Required weapon systems versus available weapon systems. These graphs are also accessible anytime after selecting a weapon system, but data are not input into the graphs until an assessment has been run. There is one graph for each Regional Conflict simulated. Available weapon systems are the number of systems calculated to be Mission Capable for each day of the scenario. The required systems are the number of systems that would be Mission Capable given a 100% capable logistic system. The optimum measure of required systems would be to evaluate OPlans, Power Projection, and Force ratio computations. Lacking these resources, it was determined that the method settled upon for this POCM was the best available solution at the present time. Clicking on OK brings the user back to the Standard Menu Screen.



Glossary of Terms

Adjustment Factors

The collection of carry over factors and inflation factors.

Availability

The NMCS rate subtracted from 1. The total hours that a weapons system is not down for supply.

Base Year

The year used for calibrating the availability curve, from which to project future readiness. Usually the most recent fiscal year for which there is a full year of data.

Carry Over Factors

The factors used to specify what percentage of each year's unfunded requirement will be added to the following year's requirement. These factors will not be applied unless the carry over function is turned on.

Consumable Buy Funding

Consumable Buy Funding used to buy consumable spare parts.

Consumable Impact

The percentage of the unfunded requirement for delivered Consumable dollars. This is subtracted from Delivered Repair funding to get effective Repair Funding.

Current Availability

The availability observed since the end of the base year (last fiscal year).

Current Year Adjustment

The adjusting of the model projections based on the availability observed since the end of the base year.

DBOF

Defense Business Operations Fund. The financial management structure that enables customers and providers of support activities to focus on the costs of doing business and to monitor those costs. The funding stream for the Supply Management Business Area (SMBA) is the funding stream used by the Army FAMMAS model to predict the readiness of the individual weapons system within the model.

Delivered Funding

The dollar value of parts arriving in the logistics system in a certain year, calculated by applying the lead time factors to the obligation authority.

Direct Maintenance Fill Rate

The percentage of those MOSs positions that have a direct or greater influence on the maintenance of a system. The MOS/System association was derived from the QQPRI. The percentage is expressed as the number of personnel available to fill those MOSs over the number of authorized personnel for those MOSs.

Effective Repair Funding

Total Delivered Repair dollars minus the Consumables Impact.

FAMMAS

Funding/Availability Multi-Method Allocator for Spares.

Global Adjustment Factors

If turned on, these adjustment factors will be applied to all systems in a Multiple System Assessment.

Global Lead Time Factors

If turned on, these lead time factors will be applied to all systems in a Multiple System Assessment.

Groups

A collection of systems defined by the user. Usually based on some like characteristics of the member systems.

Indirect Maintenance Fill Rate

The percentage of those MOSs positions that have an indirect or lessor influence on the maintenance of a system. The MOS/System association was derived from the QQPRI. The percentage is expressed as the number of personnel available to fill those MOSs over the number of authorized personnel for those MOSs.

Inflation Factors

The factors used to adjust dollar amounts that are carried over from one year to the next. These factors will not be used unless the carry over function is turned on

Initial Spares Funding

Money allocated near the origination of a system or subsystem to buy the initial shelf stock.

Lead Time Factors

The factors used to account for administrative, procurement, and production lead times and spread Operational Cost Authority funding accordingly. Used to calculate Delivered Funding.

Maintenance Manpower Utilization Rate

The amount of time, expressed as a percentage, that maintenance personnel actually perform the duties of their MOS.

MC Rate

Mission Capable rate. The number of mission capable hours for a weapons system. The NMCS and NMCM rates subtracted from 1 ($MC = 1 - (NMCS + NMCM)$).

MOS

Military Occupational Specialty. The alphanumeric expression of a learned skill.

Months Observed

The number of months the current availability has been observed. Usually the number of months since the end of the base year (last fiscal year).

NMCM Rate

Not mission capable for maintenance. The number of hours a system spends awaiting maintenance.

NMCS Rate

Not mission capable for supply. The number of hours a system is down for supply.

Operating Cost Authority (OCA)

The total amount of supplies and equipment that can be purchased and/or repaired on a fiscal year basis by Supply Management-Army (SMA) business area.

Operational Cost Authority Funding

The number of dollars programmed and allocated to a system for a certain year.

OPTEMPO

Operating Tempo for a system.

Optimal

A funding allocation methodology that will distribute changes in funding for a chosen group of systems in a given year in such a way that each system comes within the same amount (delta) of its preselected target availability in some year (either the funding year or a later year chosen by the user).

Proportional

A funding allocation methodology that will distribute changes in funding such that each system will experience the same percentage change. Also referred to as the Peanut Butter Spread.

QQPRI

Qualitative and quantitative personnel requirements information. A compilation of specified organizational, doctrinal, training, and personnel information developed by a materiel development agency in coordination with the combat developer or trainer for new or improved materiel systems. Governed under AR 570-2.

RIDB

Readiness Integrated Data Base. A database maintained by the Logistics Support Activity (LOGSA). It consolidates equipment readiness information for all reportable Army weapons systems.

Reparable Buy Funding

Reparable Funding used to buy reparable spare parts.

Reparable Repair Funding

Money allocated to pay for the repair of system parts at the depots.

SMBA

Supply Management Business Area. The Management area of the DBOF that is responsible for the Army's secondary items.

Total Delivered Funding

Delivered Reparable Buy plus effective repair funding.